

PATENT

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named  
Inventor : Jean-Francois Helard et al.

Appln. No.: 10/088,284

Filed : March 13, 2002

For : METHOD FOR EQUALISATION IN  
RECEIVERS USING A COMBINATION  
OF MODULATION TECHNIQUES WITH  
MULTIPLE CARRIERS AND WITH  
MULTIPLE ACCESS BY CODE  
DIVISION

Group Art Unit:

Docket No.: F40.12-0004

**RESPONSE TO NOTICE OF MISSING REQUIREMENTS UNDER 35  
U.S.C. § 371 IN THE UNITED STATES  
DESIGNATED/ELECTED OFFICE (DO/EO/US)**

**Box Missing Parts**  
Commissioner for Patents  
Washington, D.C. 20231

I HEREBY CERTIFY THAT THIS PAPER IS BEING  
SENT BY U.S. MAIL, FIRST CLASS, TO THE  
ASSISTANT COMMISSIONER FOR PATENTS,  
WASHINGTON, D.C. 20231, THIS

23 DAY OF July, 2002  
  
PATENT ATTORNEY

08/16/2002 ATRANI 00000140 13066207

01 FC:154  
02 FC:156  
03 FC:190

Sir:

130.00 \$  
130.00 \$  
130.00 \$

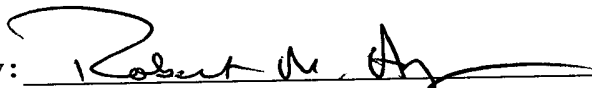
In response to the Notice of Missing Requirements dated May 30, 2002, Applicant encloses the following documents to complete the above-identified patent application filed March 13, 2002:

1. Our check in the amount of \$260 (to cover the translation fee of \$130 and surcharge fee of \$130).
2. Combined Declaration and Power of Attorney executed by the inventor(s).
3. Request for Correction of Inventors (in duplicate).
4. Statement by inventors and Consent of the Assignees.
5. Our check in the amount of \$130 (for correction of inventors).
6. Notice to File Missing Requirements.

7. Translation of Annex to PCT International Preliminary Examination Report.
8. Translation of text of drawings.
9. Claim of Priority and Transmittal of Certified Copies.
10. Certified copies.
11. Updated File Data Sheet showing additional inventor.

The Director is authorized to charge payment of any additional fees associated with this paper or credit any overpayment to Deposit Account No. 23-1123. A duplicate copy of this sheet is enclosed.

Respectfully submitted,  
WESTMAN, CHAMPLIN & KELLY, P.A.

By: 

Robert M. Angus, Reg. No. 24,383  
Suite 1600 - International Centre  
900 Second Avenue South  
Minneapolis, Minnesota 55402-3319  
Phone: (612) 334-3222 Fax: (612) 334-3312

RMA:tas

7. Translation of Annex to PCT International Preliminary Examination Report.
8. Translation of text of drawings.
9. Claim of Priority and Transmittal of Certified Copies.
10. Certified copies.
11. Updated File Data Sheet showing additional inventor.

The Director is authorized to charge payment of any additional fees associated with this paper or credit any overpayment to Deposit Account No. 23-1123. A duplicate copy of this sheet is enclosed.

Respectfully submitted,  
WESTMAN, CHAMPLIN & KELLY, P.A.

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RMA:tas

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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TECHNIQUES WITH MULTIPLE  
CARRIERS AND WITH MULTIPLE  
ACCESS BY CODE DIVISION

Group Art Unit:

Examiner:

Docket No.: F40.12-0004

**REQUEST FOR CORRECTION OF INVENTORSHIP  
UNDER 37 CFR § 1.47(d)**

Commissioner for Patents  
Washington, D.C. 20231

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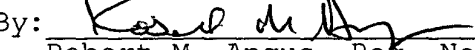
23 DAY OF July, 2002.  
  
PATENT ATTORNEY

Sir:

Request is hereby made to add Jean-Yves Baudais as co-inventor in the above-identified application. In support of this request, attached is a statement by the inventors that the omission of the co-inventor in the International Application was without deceptive intent. Also attached is the Consent of the Assignees, France Telecom, Mitsubishi Electric and Telediffusion de France. The processing fee set forth in 37 CFR § 1.17(i) is attached, and the Declaration submitted herewith in response to the request for missing parts is executed by both co-inventors. Correction of the identification of inventorship as set forth herein is hereby requested.

Respectfully submitted,

WESTMAN, CHAMPLIN & KELLY, P.A.

By:   
Robert M. Angus, Reg. No. 24,383  
Suite 1600 - International Centre  
900 Second Avenue South  
Minneapolis, Minnesota 55402-3319  
Phone: (612) 334-3222  
Fax: (612) 334-3312

RMA:tas

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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Inventor : Jean-Francois Helard

Appln. No.: 10/088,284

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DIVISION

Group Art Unit:

Examiner:

Docket No.: F40.12-0004

**STATEMENT AND CONSENT UNDER 37 CFR § 1.497(d)**

Commissioner for Patents  
Washington, D.C. 20231

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WASHINGTON, D.C. 20231, THIS

23 DAY OF July, 20 02

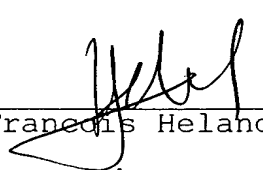


PATENT ATTORNEY

Sir:

The undersigned state that Jean-Yves Baudais was inadvertently omitted as an inventor in International Application No. PCT FR00/02555 filed September 14, 2000 and that the omission of Mr. Baudais as an inventor was without deceptive intent.

By:

  
Jean-Francois Helard

Date:

17/6/2002

By:

  
Jean-Yves Baudais

Date:

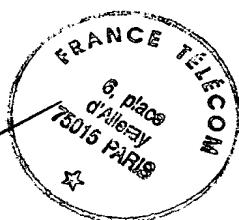
17/06/02.

RMA:tas

CONSENT

The undersigned Assignees, France Telecom, Mitsubishi Electric and Telediffusion de France, consent to the inclusion of Jean-Yves Baudais as co-inventor to the above-identified application. Each of the persons signing on behalf of the respective Assignee further state that they are authorized to act on behalf of that Assignee.

FRANCE TELECOM

By: 

Date: 26/06/02  
**Didier LEMOYNE**  
 Corporate Patents Manager

MITSUBISHI ELECTRIC

By: 

Date: 26 juin 2002  
**MITSUBISHI ELECTRIC I.T.C.E.**  
 80, Avenue des Buttes de Coesmes  
 Immeuble Germanium  
 35700 RENNES  
 Tél. 02 99 84 21 10 - Fax 02 99 84 21 15

TELEDIFFUSION DE FRANCE

By: 

Directeur TDI-CCETT

Date: 17 juin 2002  
**Denis RENAULT**

#4  
Rec'd PCT/PTO 13 AUG 2001

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Jean-Francois Helard et al.

Applic No.: 10/088,284

Filed : March 13, 2002

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MULTIPLE ACCESS BY CODE  
DIVISION

Group Art Unit: ---

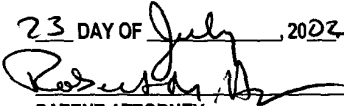
Examiner: ---

Docket No.: F40.12-0004

**CLAIM OF PRIORITY AND TRANSMITTAL OF  
CERTIFIED COPY OF PRIORITY DOCUMENT**

Assistant Commissioner for Patents  
Washington, D.C. 20231

I HEREBY CERTIFY THAT THIS PAPER IS  
BEING SENT BY U.S. MAIL, FIRST CLASS,  
TO THE ASSISTANT COMMISSIONER FOR  
PATENTS, WASHINGTON, D.C. 20231, THIS

23 DAY OF July, 2002  
  
PATENT ATTORNEY

Sir:

Applicant claims right of priority under the provisions  
of 35 USC § 119 based on French Patent Application Nos. 99 11689,  
filed 14 September 1999 and 99 15919, filed 9 December 1999.

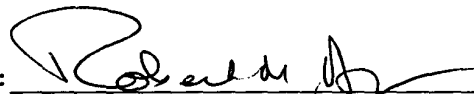
A certified copy of this application is enclosed. This  
priority application is identified in the Declaration filed  
herewith.

Applicant requests that priority be granted on the  
basis of this application.

Respectfully submitted,

WESTMAN, CHAMPLIN & KELLY, P.A.

By:



Robert M. Angus, Reg. No. 24,383  
Suite 1600 - International Centre  
900 Second Avenue South  
Minneapolis, Minnesota 55402-3319  
Phone: (612) 334-3222 Fax: (612) 334-3312

RMA:tas

**ENGLISH TRANSLATION OF FIGURES**  
**Application No. 10/088,284**

LEGENDES DES FIGURES

P1/2

Modulateur MC-CDMA	MC-CDMA Modulator
Modulation OFDM	OFDM Modulation
IFFT N points	IFFT N points
Insertion de l'intervalle de garde	Insertion of guard time
Canal	Channel
Récepteur MC-CDMA	MC-CDMA receiver
Demodulation OFDM	OFDM de-modulation
Egalisation matrice G	G matrix equalisation

5 P 2/2

Number of users	Number of users
Reconstruction d'intéférences	Interference reconstruction
Egalisation G1	G1 equalisation
Desétalement	De-spreading
CBS	SBC
Décision	Decision
Etalement	Spread
Coefficients du canal	Channel coefficients
Signal MC-CDMA reçu	MC-CDMA signal received
Annulation d'interférence	Interference annulment
Egalisation GZ	GZ equalisation





## UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents, Box PCT  
United States Patent and Trademark Office  
Washington, D.C. 20231  
www.uspto.gov

U.S. APPLICATION NUMBER NO.	FIRST NAMED APPLICANT	ATTY. DOCKET NO.
10/088,284	Jean francois Helard	F40.12-0004

Robert M Angus  
Westman Champlin & Kelly  
Suite 1600 International Centre  
900 Second Avenue South  
Minneapolis, MN 55402-3319



INTERNATIONAL APPLICATION NO.	
PCT/FR00/02555	
I.A. FILING DATE	PRIORITY DATE
09/14/2000	09/14/1999

CONFIRMATION NO. 8724

371 FORMALITIES LETTER



\*OC000000008194348\*

Date Mailed: 05/30/2002

### NOTIFICATION OF MISSING REQUIREMENTS UNDER 35 U.S.C. 371 IN THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US)

The following items have been submitted by the applicant or the IB to the United States Patent and Trademark Office as an Elected Office (37 CFR 1.495):

- U.S. Basic National Fees
- Priority Document
- Copy of IPE Report
- Copy of references cited in ISR
- Copy of the International Application
- Copy of the International Search Report
- English Translation of the IA
- Information Disclosure Statements
- Oath or Declaration
- Preliminary Amendments

The following items **MUST** be furnished within the period set forth below in order to complete the requirements for acceptance under 35 U.S.C. 371:

- Translation of the application into English. The current translation of the application into English is defective as described below.
  - The text in the drawings has not been properly translated.
- Processing fee for providing the translation of the application and/or the Annexes later than the appropriate 30 months from the priority date (37 CFR 1.492(f)).
- Oath or declaration of the inventors, in compliance with 37 CFR 1.497(a) and (b), identifying the application by the International application number and international filing date. The current oath or declaration does not comply with 37 CFR 1.497(a) and (b) in that it:
  - is not executed in accordance with either 37 CFR 1.66 or 37 CFR 1.68.

- **\$130** Surcharge for providing the oath or declaration later than the appropriate 30 months months from the priority date (37 CFR 1.492(e)) is required.

**ALL OF THE ITEMS SET FORTH ABOVE MUST BE SUBMITTED WITHIN TWO (2) MONTH FROM THE DATE OF THIS NOTICE OR BY 22 or 32 MONTHS (where 37 CFR 1.495 applies) FROM THE PRIORITY DATE FOR THE APPLICATION, WHICHEVER IS LATER. FAILURE TO PROPERLY RESPOND WILL RESULT IN ABANDONMENT.**

The time period set above may be extended by filing a petition and fee for extension of time under the provisions of 37 CFR 1.136(a).

**SUMMARY OF FEES DUE:**

Total additional fees required for this application is **\$260** for a Large Entity:

- **\$130** Late oath or declaration Surcharge.
- **\$130** for English translation surcharge required.

Applicant is reminded that any communications to the United States Patent and Trademark Office must be mailed to the address given in the heading and include the U.S. application no. shown above (37 CFR 1.5)

*A copy of this notice **MUST** be returned with the response.*

JOHN L ANDERSON

Telephone: (703) 308-9116

**PART 2 - OFFICE COPY**

U.S. APPLICATION NUMBER NO.	INTERNATIONAL APPLICATION NO.	ATTY. DOCKET NO.
10/088,284	PCT/FR00/02555	F40.12-0004

FORM PCT/DO/EO/905 (371 Formalities Notice)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor : Jean-Francois Helard	
Appln. No.: 10/088,284	
Filed : March 13, 2002	Group Art Unit:
For : METHOD FOR EQUALISATION IN RECEIVERS USING A COMBINATION OF MODULATION TECHNIQUES WITH MULTIPLE CARRIERS AND WITH MULTIPLE ACCESS BY CODE DIVISION	Examiner:
Docket No.: F40.12-0004	

**CONSENT UNDER 37 CFR § 1.497(d)**

France Telecom, a company organized and existing under the laws of France and having offices at 6, place d'Alleray, 75015 Paris, France, Mitsubishi Electric, a company organized and existing under the laws of France and having offices at 80, avenue des Buttes de Coesmes, 35700 Rennes, France, and Telediffusion de France, a company organized and existing under the laws of France and having offices at 10, rue d'Oradour-sur-Glane, 75732 Paris Cedex 15, France, are the joint owners of the entire right, title and interest in the patent application identified above by virtue of an assignment from the inventors of the patent application identified above and recorded in the U.S. Patent and Trademark Office at Reel 013135, Frame 0899, a copy of which is attached.

Each assignee, identified herein, consents to the inclusion of Jean-Yves Baudais as co-inventor to the above-identified application.

Each undersigned (whose title is supplied below) is authorized to act on behalf of the respective assignee.

FRANCE TELECOM



By: Didier LEMOYNE  
 Title: Corporate Patents Manager  
 Date: 31/01/2003

MITSUBISHI ELECTRIC

By: Jean-Pierre COUDREUSE  
 Title: General Manager  
 Date: 27 jan. 2003

TELEDIFFUSION DE FRANCE



By: Denis RENAULT  
 Title: Directeur TDF-CCETT  
 Date: \_\_\_\_\_

MITSUBISHI ELECTRIC I.T.C.E.

1, allée de Beaulieu

CS 10806

35708 RENNES Cedex 7

Tél. 02 23 45 58 58 - Fax 02 23 45 58 59